



ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 63

[EPA-HQ-OAR-2017-0015; FRL-5948.1-01-OAR]

RIN 2060-AV59

National Emission Standards for Hazardous Air Pollutants: Lime Manufacturing Plants Amendments

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The U.S. Environmental Protection Agency (EPA) is proposing amendments to the National Emission Standards for Hazardous Air Pollutants for Lime Manufacturing Plants (Lime Manufacturing NESHAP), as required by the Clean Air Act (CAA). To ensure that all emissions of HAP from sources in the source category are regulated, the EPA is proposing hazardous air pollutant (HAP) emissions standards for the following pollutants: hydrogen chloride (HCl), mercury, total hydrocarbon (THC) as a surrogate for organic HAP, and dioxin/furans (D/F).

DATES: Comments must be received on or before [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]. Under the Paperwork Reduction Act (PRA), comments on the information collection provisions are best assured of consideration if the Office of Management and Budget (OMB) receives a copy of your comments on or before [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

Public hearing: If anyone contacts us requesting a public hearing on or before [INSERT DATE 5 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER], we will hold a virtual public hearing. See **SUPPLEMENTARY INFORMATION** for information on requesting and registering for a public hearing.

ADDRESSES: You may send comments, identified by Docket ID No. EPA-HQ-OAR-2017-0015, by any of the following methods:

- Federal eRulemaking Portal: <https://www.regulations.gov/> (our preferred method).
Follow the online instructions for submitting comments.
- Email: a-and-r-docket@epa.gov. Include Docket ID No. EPA-HQ-OAR-2017-0015 in the subject line of the message.
- Fax: (202) 566-9744. Attention Docket ID No. EPA-HQ-OAR-2017-0015.
- Mail: U.S. Environmental Protection Agency, EPA Docket Center, Docket ID No. EPA-HQ-OAR-2017-0015, Mail Code 28221T, 1200 Pennsylvania Avenue, NW, Washington, DC 20460.
- Hand/Courier Delivery: EPA Docket Center, WJC West Building, Room 3334, 1301 Constitution Avenue, NW, Washington, DC 20004. The Docket Center's hours of operation are 8:30 a.m. – 4:30 p.m., Monday – Friday (except federal holidays).

Instructions: All submissions received must include the Docket ID No. for this rulemaking. Comments received may be posted without change to <https://www.regulations.gov/>, including any personal information provided. For detailed instructions on sending comments and additional information on the rulemaking process, see the **SUPPLEMENTARY INFORMATION** section of this document.

FOR FURTHER INFORMATION CONTACT: For questions about this proposed action, contact Brian Storey, Sector Policies and Programs Division (Mail Code D243-04), Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711; telephone number: (919) 541-1103; fax number: (919) 541-4991; and email address: storey.brian@epa.gov.

SUPPLEMENTARY INFORMATION:

Participation in virtual public hearing. To request a virtual public hearing, contact the public hearing team at (888) 372-8699 or by email at SPPDpublichearing@epa.gov. If requested, the hearing will be held via virtual platform on **[INSERT DATE 15 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. The hearing will convene at 10:00 a.m. Eastern Time (ET) and will conclude at 4:00 p.m. ET. The EPA may close a session 15 minutes after the last pre-registered speaker has testified if there are no additional speakers. The EPA will announce further details at <https://www.epa.gov/stationary-sources-air-pollution/lime-manufacturing-plants-national-emission-standards-hazardous>.

If a public hearing is requested, the EPA will begin pre-registering speakers for the hearing upon publication of this document in the *Federal Register*. To register to speak at the virtual hearing, please use the online registration form available at <https://www.epa.gov/stationary-sources-air-pollution/lime-manufacturing-plants-national-emission-standards-hazardous> or contact the public hearing team at (888) 372-8699 or by email at SPPDpublichearing@epa.gov. The last day to pre-register to speak at the hearing will be **[INSERT DATE 12 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. Prior to the hearing, the EPA will post a general agenda that will list pre-registered speakers in approximate order at: <https://www.epa.gov/stationary-sources-air-pollution/lime-manufacturing-plants-national-emission-standards-hazardous>.

The EPA will make every effort to follow the schedule as closely as possible on the day of the hearing; however, please plan for the hearings to run either ahead of schedule or behind schedule.

Each commenter will have 4 minutes to provide oral testimony. The EPA encourages commenters to submit a copy of their oral testimony as written comments to the rulemaking docket.

The EPA may ask clarifying questions during the oral presentations but will not respond to the presentations at that time. Written statements and supporting information submitted during

the comment period will be considered with the same weight as oral testimony and supporting information presented at the public hearing.

Please note that any updates made to any aspect of the hearing will be posted online at <https://www.epa.gov/stationary-sources-air-pollution/lime-manufacturing-plants-national-emission-standards-hazardous>. While the EPA expects the hearing to go forward as set forth above, please monitor our website or contact the public hearing team at (888) 372-8699 or by email at SPPDpublichearing@epa.gov to determine if there are any updates. The EPA does not intend to publish a document in the *Federal Register* announcing updates.

If you require the services of a translator or special accommodation such as audio description, please pre-register for the hearing with the public hearing team and describe your needs by **[INSERT DATE 7 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. The EPA may not be able to arrange accommodations without advanced notice.

Docket. The EPA has established a docket for this rulemaking under Docket ID No. EPA-HQ-OAR-2017-0015. All documents in the docket are listed in <https://www.regulations.gov/>. Although listed, some information is not publicly available, *e.g.*, Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, is not placed on the Internet and will be publicly available only in hard copy. With the exception of such material, publicly available docket materials are available electronically in Regulations.gov.

Instructions. Direct your comments to Docket ID No. EPA-HQ-OAR-2017-0015. The EPA's policy is that all comments received will be included in the public docket without change and may be made available online at <https://www.regulations.gov/>, including any personal information provided, unless the comment includes information claimed to be CBI or other information whose disclosure is restricted by statute. Do not submit electronically to <https://www.regulations.gov/> any information that you consider to be CBI or other information

whose disclosure is restricted by statute. This type of information should be submitted as discussed below.

The EPA may publish any comment received to its public docket. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (*i.e.*, on the Web, cloud, or other file sharing system). For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit <https://www.epa.gov/dockets/commenting-epa-dockets>.

The <https://www.regulations.gov/> website allows you to submit your comment anonymously, which means the EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an email comment directly to the EPA without going through <https://www.regulations.gov/>, your email address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, the EPA recommends that you include your name and other contact information in the body of your comment and with any digital storage media you submit. If the EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, the EPA may not be able to consider your comment. Electronic files should not include special characters or any form of encryption and be free of any defects or viruses. For additional information about the EPA's public docket, visit the EPA Docket Center homepage at <https://www.epa.gov/dockets>.

Submitting CBI. Do not submit information containing CBI to the EPA through <https://www.regulations.gov/>. Clearly mark the part or all of the information that you claim to be CBI. For CBI information on any digital storage media that you mail to the EPA, note the docket ID, mark the outside of the digital storage media as CBI, and identify electronically within the

digital storage media the specific information that is claimed as CBI. In addition to one complete version of the comments that includes information claimed as CBI, you must submit a copy of the comments that does not contain the information claimed as CBI directly to the public docket through the procedures outlined in *Instructions* above. If you submit any digital storage media that does not contain CBI, mark the outside of the digital storage media clearly that it does not contain CBI and note the docket ID. Information not marked as CBI will be included in the public docket and the EPA's electronic public docket without prior notice. Information marked as CBI will not be disclosed except in accordance with procedures set forth in 40 CFR part 2.

Our preferred method to receive CBI is for it to be transmitted electronically using email attachments, File Transfer Protocol (FTP), or other online file sharing services (*e.g.*, Dropbox, OneDrive, Google Drive). Electronic submissions must be transmitted directly to the Office of Air Quality Planning and Standards (OAQPS) CBI Office at the email address oaqpscbi@epa.gov, and as described above, should include clear CBI markings and note the docket ID. If assistance is needed with submitting large electronic files that exceed the file size limit for email attachments, and if you do not have your own file sharing service, please email oaqpscbi@epa.gov to request a file transfer link. If sending CBI information through the postal service, please send it to the following address: OAQPS Document Control Officer (C404-02), OAQPS, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina 27711, Attention Docket ID No. EPA-HQ-OAR-2017-0015. The mailed CBI material should be double wrapped and clearly marked. Any CBI markings should not show through the outer envelope.

Preamble acronyms and abbreviations. Throughout this notice the use of “we,” “us,” or “our” is intended to refer to the EPA. We use multiple acronyms and terms in this preamble. While this list may not be exhaustive, to ease the reading of this preamble and for reference purposes, the EPA defines the following terms and acronyms here:

ACI	activated carbon injection
APCD	air pollution control device
BDL	below detection level

CAA	Clean Air Act
CBI	Confidential Business Information
CFR	Code of Federal Regulations
DB	dead burned dolomitic lime
D/F	dioxin/furans
DL	dolomitic lime
DSI	dry sorbent injection
EJ	environmental justice
EPA	Environmental Protection Agency
ESP	electrostatic precipitator
FB	fluidized bed
FF	fabric filter
FR	<i>Federal Register</i>
g/dscm	grams of pollutant per dry standard cubic meter of air
HAP	hazardous air pollutant(s)
HCl	hydrogen chloride
IQV	intra-quarry variability
lb/MMton	pounds of pollutant per million tons of lime produced at the kiln
lb/tsf	pounds of pollutant per ton of stone feed
MACT	maximum achievable control technology
NESHAP	national emission standards for hazardous air pollutants
NTTAA	National Technology Transfer and Advancement Act
OAQPS	Office of Air Quality Planning and Standards
OMB	Office of Management and Budget
PM	particulate matter
ppmvd	parts per million by volume, dry
PR	preheater rotary kiln
PRA	Paperwork Reduction Act
PSH	process stone handling
QL	quick lime
RDL	representative detection level
RFA	Regulatory Flexibility Act
RTR	residual risk and technology review
RTO	regenerative thermal oxidizer
SR	straight rotary kiln
SSM	startup, shutdown, and malfunction
THC	total hydrocarbons
tpy	tons of pollutant per year
UMRA	Unfunded Mandates Reform Act
UPL	upper predictive limit
VK	vertical kilns
VCS	voluntary consensus standards

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I. General Information

A. Does this action apply to me?

Table 1 of this preamble lists the NESHAP and associated regulated industrial source category that is the subject of this proposal. Table 1 is not intended to be exhaustive, but rather provides a guide for readers regarding the entities that this proposed action is likely to affect. The

proposed standards, once promulgated, will be directly applicable to the affected sources.

Federal, state, local, and tribal government entities would not be affected by this proposed action.

As defined in the Initial List of Categories of Sources Under Section 112(c)(1) of the Clean Air Act Amendments of 1990 (57 FR 31576, July 16, 1992) and Documentation for Developing the Initial Source Category List, Final Report (EPA-450/3-91-030, July 1992), the Lime Manufacturing source category is “any facility engaged in producing high calcium lime, dolomitic lime, and dead-burned dolomite.” However, lime manufacturing plants located at pulp and paper mills or at beet sugar factories are not included in the source category (69 FR 394, 397, January 5, 2004).

Table 1. NESHAP and Industrial Source Categories Affected by this Proposed Action

Source Category	NESHAP	NAICS code ¹
Lime Manufacturing	Lime Manufacturing Plants	32741, 33111, 3314, 327125

¹ *North American Industry Classification System.*

B. Where can I get a copy of this document and other related information?

In addition to being available in the docket, an electronic copy of this action is available on the Internet. Following signature by the EPA Administrator, the EPA will post a copy of this proposed action at <https://www.epa.gov/stationary-sources-air-pollution/lime-manufacturing-plants-national-emission-standards-hazardous>. Following publication in the *Federal Register*, the EPA will post the *Federal Register* version of the proposal and key technical documents at this same website. A redline version of the regulatory language that incorporates the proposed changes in this action is available in the docket for this action (Docket ID No. EPA-HQ-OAR-2017-0015).

II. Background

A. What is the statutory authority for this action?

On July 24, 2020, the EPA took final action on the risk and technology review required by Clean Air Act (CAA) sections 112(d)(6) and (f)(2) for the NESHAP for Lime Manufacturing

Plants (2020 RTR).¹The EPA is proposing in this action to amend the NESHAP to ensure that all emissions of HAP from sources in the source category are regulated.

In setting standards for major source categories under CAA 112(d), EPA has the obligation to address all HAP listed under CAA 112(b).² In the *Louisiana Environmental Action Network v. EPA (LEAN)* decision issued on April 21, 2020, the U.S. Court of Appeals for the District of Columbia Circuit (D.C. Circuit) held that the EPA has an obligation to address unregulated emissions from a major source category when the Agency conducts the 8-year technology review. This proposed rule addresses currently unregulated emissions of HAP from the lime manufacturing source category.

Emissions data collected for the 2020 RTR from the exhaust stack of existing lime kilns in the source category indicated the following unregulated pollutants were present: HCl, mercury, organic HAP (which we are proposing to regulate using THC as a surrogate), and D/F. Therefore, the EPA is proposing amendments establishing standards that reflect maximum achievable control technology (MACT) for these four pollutants emitted by the source category, pursuant to CAA sections 112(d)(2) and (3).

B. What is this source category and how does the current NESHAP regulate its HAP emissions?

The EPA promulgated the Lime Manufacturing NESHAP on January 5, 2004 (69 FR 394). The standards are codified at 40 CFR part 63, subpart AAAAA. The lime manufacturing industry consists of facilities that use a lime kiln to produce lime product from limestone by calcination. The source category covered by this MACT standard currently includes 35 facilities.

As promulgated in 2004, the current Lime Manufacturing NESHAP regulates HAP emissions from all new and existing lime manufacturing plants that are major sources, co-located with major sources, or are part of major sources. However, lime manufacturing plants located at

¹ 85 FR 44960 July 24, 2020.

² *Desert Citizens against Pollution v EPA*, 699 F.3d 524, 527 (D.C. Cir. 2012) (“[W]e have read subparagraphs (1) and (3) of § 112(d) to require the regulation of all HAPs listed in § 112(b)(1). See, e.g., *Nat'l Lime Ass'n v. EPA*, 233 F.3d 625, 633–34 (D.C.Cir.2000), *Sierra Club v. EPA*, 479 F.3d 875, 883 (C.Cir.2007).”)]

pulp and paper mills or at beet sugar factories are not subject to the NESHAP.³ Other lime manufacturing plants that are part of multiple operations, such as (but not limited to) those at steel mills and magnesia production facilities, are subject to the NESHAP. A lime manufacturing plant is defined as any plant which uses a lime kiln to produce lime product from limestone or other calcareous material by calcination. However, the NESHAP specifically excludes lime kilns that use only calcium carbonate waste sludge from water softening processes as the feedstock.

The Lime Manufacturing NESHAP defines the affected source as each lime kiln and its associated cooler and each individual processed stone handling (PSH) operations system. The PSH operations system includes all equipment associated with PSH operations beginning at the process stone storage bin(s) or open storage pile(s) and ending where the process stone is fed into the kiln. It includes man-made process stone storage bins (but not open process stone storage piles), conveying system transfer points, bulk loading or unloading systems, screening operations, surge bins, bucket elevators, and belt conveyors.

The current Lime Manufacturing NESHAP established particulate matter (PM) emission limits for lime kilns, coolers, and PSH operations with stacks. The NESHAP also established opacity limits for kilns equipped with electrostatic precipitators (ESP) and fabric filters (FF) and scrubber liquid flow limits for kilns equipped with wet scrubbers. Particulate matter serves as a surrogate for the non-mercury metal HAP. The NESHAP also regulates opacity or visible emissions from most of the PSH operations, with opacity also serving as a surrogate for HAP metals.

The PM emission limit for existing kilns and coolers is 0.12 pounds PM per ton of stone feed (lb/tsf) for kilns using dry air pollution control systems prior to January 5, 2004. Existing kilns that have installed and are operating wet scrubbers prior to January 5, 2004, must meet an emission limit of 0.60 lb/tsf. Kilns which meet the criteria for the 0.60 lb/tsf emission limit must continue to use a wet scrubber for PM emission control in order to be eligible to meet the 0.60 lb

³ 69 FR 394, January 5, 2004

/tsf limit. If at any time such a kiln switches to a dry control, they would become subject to the 0.12 lb/tsf emission limit, regardless of the type of control device used in the future. The PM emission limit for all new kilns and lime coolers is 0.10 lb/tsf. As a compliance option, these emission limits (except for the 0.60 lb/tsf limit) may be applied to the combined emissions of all the kilns and coolers at the lime manufacturing plant. If the lime manufacturing plant has both new and existing kilns and coolers, then the emission limit would be an average of the existing and new kiln PM emissions limits, weighted by the annual actual production rates of the individual kilns, except that no new kiln may exceed the PM emission level of 0.10 lb/tsf. Kilns that are required to meet a 0.60 lb/tsf emission limit must meet that limit individually and may not be included in any averaging calculations.

Emissions from PSH operations that are vented through a stack are subject to a limit of 0.05 grams PM per dry standard cubic meter (g/dscm) and 7 percent opacity. Stack emissions from PSH operations that are controlled by wet scrubbers are subject to the 0.05 g PM/dscm limit but not subject to the opacity limit. Fugitive emissions from PSH operations are subject to a 10 percent opacity limit.

For each building enclosing any PSH operation, each of the affected PSH operations in the building must comply individually with the applicable PM and opacity emission limitations. Otherwise, there must be no visible emissions from the building, except from a vent, and the building's vent emissions must not exceed 0.05 g/dscm and 7 percent opacity. For each fabric filter that controls emissions from only an individual, enclosed processed stone storage bin, the opacity must not exceed 7 percent. For each set of multiple processed stone storage bins with combined stack emissions, emissions must not exceed 0.05 g/dscm and 7 percent opacity. The current Lime Manufacturing NESHAP does not allow averaging of PSH operations.

The 2020 amendments finalized the residual risk and technology review (RTR) conducted for the Lime Manufacturing NESHAP. The RTR found that the risk associated with air emissions from lime manufacturing was acceptable and that the current NESHAP provides an

ample margin of safety to protect public health. The EPA determined that there were no developments in practices, processes, or control technologies that would warrant revisions to the standards. In addition, the 2020 amendments addressed periods of startup, shutdown, and malfunction (SSM) by removing any exemptions during SSM operations. Lastly, the 2020 amendments included provisions requiring electronic reporting.

C. What data collection activities were conducted to support this action?

During the development of 40 CFR part 63, subpart AAAAAA, the EPA collected information on the emissions, operations, and location of lime manufacturing plants. Since this information was collected prior to the 2004 promulgation of 40 CFR part 63, subpart AAAAAA, the EPA prepared a questionnaire in 2017 to collect updated information on the location and number of lime kilns, types and quantities of emissions, annual operating hours, types and quantities of fuels burned, and information on air pollution control devices and emission points. Nine companies completed the 2017 questionnaire for which they reported data for 32 of 35 major source facilities.

In this action, the EPA used the emissions data collected from the 2017 questionnaire to develop MACT standards for four unregulated pollutants (HCl, mercury, THC, D/F). In addition, supplemental information was provided by industry stakeholders on the mercury content of the raw material feed to the lime kiln, the types of lime kiln designs and their operations, and the types of lime produced. The data collected and used in this action are provided in the docket. In addition, the data collection and analysis of this action are described in detail in the document, “Proposed Maximum Achievable Control Technology (MACT) Floor Analysis for the Lime Manufacturing Plant Industry,” located in the docket (Docket ID No. EPA-HQ-OAR-2017-0015).

III. Analytical Procedures and Decision Making

A. How did we address unregulated emissions sources?

While evaluating the lime manufacturing source category and emissions data collected in support of the 2020 RTR, we identified several HAP which are not currently regulated by the Lime Manufacturing NESHAP. These HAP include HCl, mercury, and D/F. Additionally, multiple HAP that are classified as “organic HAP” were identified. The EPA has a “clear statutory obligation to set emissions standards for each listed HAP”.⁴ For these HAP, we are proposing emissions limits pursuant to CAA section 112(d)(2) and 112(d)(3). The results and proposed decisions based on the analyses performed pursuant to CAA section 112(d)(2) and 112(d)(3) are presented in section IV of this preamble.

1. Hydrochloric acid

In response to the 2017 questionnaire, we received HCl emissions data that EPA did not have when we developed the 2004 NESHAP. Therefore, we are proposing a standard pursuant to CAA section 112(d)(2) and (d)(3), as described further in section IV.A.1 of this preamble.

2. Mercury

The 2004 NESHAP specified emissions limits for particulate metal HAP (*e.g.*, manganese, arsenic, nickel, chromium) in terms of a particulate matter emissions limit (*i.e.*, particulate matter is used as a surrogate for metal HAP that are emitted in particulate form). There is no explicit standard for mercury. The responses to the 2017 questionnaire indicated that mercury is emitted by the lime manufacturing process. Therefore, we are proposing a standard specifically for mercury pursuant to CAA section 112(d)(2) and (d)(3), as described further in section IV.A.2 of this preamble.

3. Total Hydrocarbons

In response to the 2017 questionnaire, we received THC emissions data that EPA did not have when we developed the 2004 NESHAP. The THC data indicated the presence of pollutants defined as organic HAP. Therefore, we are proposing a standard for THC as a surrogate for organic HAP pursuant to CAA section 112(d)(2) and (d)(3), as described further in section

⁴ National Lime v. EPA, 233 F. 3d 625, 634 (DC Cir. 2000)

IV.A.3 of this preamble. We are accepting comment on a potential total organic HAP limit as an alternative. Comments should include emissions data to support a total organic HAP limit.

4. Dioxin/Furans

Lastly, the 2017 questionnaire identified the potential for sources in the lime manufacturing source category to emit congeners of D/F; therefore, we are proposing a standard for D/F pursuant to CAA section 112(d)(2) and (d)(3), as described in detail in section IV.A.4 of this preamble.

IV. Analytical Results and Proposed Decisions

The “MACT floor” for existing sources is calculated based on the average performance of the best-performing units in each category or subcategory and on a consideration of the variability of HAP emissions from these units. The MACT floor for new sources is based on the single best-performing source, with a similar consideration of variability. The MACT floor for new sources cannot be less stringent than the emissions performance that is achieved in practice by the best-controlled similar source. To account for variability in the lime manufacturing operations and resulting emissions, we calculated the MACT floors using the 99 percent Upper Predictive Limit (UPL) using available stack test data.⁵

The UPL approach addresses variability of emissions data from the best-performing source or sources in setting MACT standards. The UPL also accounts for uncertainty associated with emission values in a dataset, which can be influenced by components such as the number of samples available for developing MACT standards and the number of samples that will be collected to assess compliance with the emission limit. The UPL approach has been used in many environmental science applications. As explained in more detail in the UPL Memo cited above, the EPA uses the UPL approach to reasonably estimate the emissions performance of the best-performing source or sources to establish MACT floor standards.

⁵ For more information regarding the general use of the UPL and why it is appropriate for calculating MACT floors, see *Use of Upper Prediction Limit for Calculating MACT Floors* (UPL Memo), which is available in the docket for this action.

In addition, the EPA must examine more stringent “beyond-the-floor” regulatory options to determine MACT. Unlike the floor minimum stringency requirements, the EPA must consider various impacts of the more stringent regulatory options in determining whether MACT standards are to reflect beyond-the-floor requirements. If the EPA concludes that the more stringent regulatory options have unreasonable impacts, the EPA selects the MACT floor as MACT. However, if the EPA concludes that impacts associated with beyond-the-floor levels of control are reasonable in light of additional emissions reductions achieved, the EPA selects those levels as MACT.

Data submitted to the EPA for the 2017 questionnaire included air emissions test results from 32 of the 35 lime manufacturing facilities in the source category. From the questionnaire responses, we also noted the types of kilns in use and types of lime being produced at the time of testing. The types of kilns used by the lime manufacturing industry include straight rotary kilns (SR), preheater rotary kilns (PR), vertical kilns (VK), and fluidized bed kilns (FB). The types of lime produced include refractory dead burned dolomitic lime (DB), dolomitic quick lime (DL), and high-calcium quick lime (QL).

A. What are the results of our analyses of unregulated pollutants and how did we set MACT standards?

1. Hydrochloric Acid Emissions

The 2017 data included the results of stack testing 30 kiln exhaust stacks for the presence of HCl, using EPA Methods 320 and 321. Data collected using the test method ASTM D6735-01 “Standard Test Method for Measurement of Gaseous Chlorides and Fluorides from Mineral Calcining Exhaust Sources—Impinger Method” were found to be invalid, based on the fact that the test method is no longer an active ASTM method. The ASTM method was never revised to reflect the change in probe and filter temperature as were included in EPA Method 26A. Because of this, the ASTM method is run hot enough to evaporate ammonium chloride from the sample and bias the HCl results high. Additionally, we evaluated the types of kilns and lime produced for which we had data. From our discussions with industry representatives, and our review of the

HCl emissions data, we found that the configuration of the different types of kilns (*i.e.*, SR, PR, VK, FB) warranted subcategorization by kiln configuration. In addition, the differences in residence time of the raw materials within the heating zone of the kiln during the production of the different types of lime also warranted subcategorization by the three types of lime produced (*i.e.*, DB, DL, QL).

To account for variability in the lime manufacturing operations and resulting emissions, the stack test data were used to calculate the HCl MACT floor limits based on the 99 percent UPL. In some instances, subcategorization resulted in limited datasets, and a single dataset was used to calculate both existing and new source HCl MACT floor limits. In these instances, the existing HCl MACT floor limit equals the new source HCl MACT floor limit. The HCl MACT floor limits were calculated based on concentration, in units of parts per million by volume, dry, corrected to 7 percent oxygen (ppmvd @ 7 percent O₂). Using known and assumed production rates recorded at the time of testing, we then converted the concentration-based limits to units of pounds of pollutant per tons of lime produced at the kiln (lb/ton lime produced). A summary of the proposed subcategories, and the associated proposed HCl MACT floor limits in units of lb/ton of lime produced for new and existing lime manufacturing sources is included as Table 2.

Table 2. Proposed Hydrogen Chloride MACT Floor Limits for New and Existing Lime Manufacturing Sources

Kiln Type¹	Lime Produced²	New Source MACT Floor Limit (lb/ton of lime produced)	Existing Source MACT Floor Limit (lb/ton of lime produced)
SR	DL, DB	1.6	2.2
SR	QL	0.021	0.58
PR	DL, DB	0.39	0.39
PR	QL	0.015	0.015
VK	QL, DL, DB	0.021	0.021

Note:

1 – Straight rotary (SR), preheater rotary (PR), vertical (VK)

2 – Dolomitic lime (DL), high-calcium quick lime (QL), dead burned dolomitic lime (DB)

We did not have emissions data from fluidized bed kilns, and after discussions with industry representatives, we understand that there are no fluidized bed kilns located at any major source facilities subject to the Lime Manufacturing NESHAP. There are fluidized bed kilns in use at area sources, but area sources are not subject to the Lime Manufacturing NESHAP. In addition, the 2017 questionnaire provided emissions data for vertical kilns producing high-calcium quick lime only. We have set the new and existing HCl MACT floor limits for vertical kilns producing dolomitic lime and dead burned dolomitic lime equal to the MACT floor for high-calcium quick lime. Lastly, we have set the MACT floor for preheater rotary kilns producing dead burned dolomitic lime, equal to those preheater rotary kilns producing dolomitic quick lime.

The EPA then compared the emission rates estimated in the 2020 RTR to the HCl MACT floor limits to determine the number of kilns in the source category that would require additional air pollution control devices (APCD) to meet the HCl MACT floor limit. We found that out of 96 existing kilns, 55 kilns would require additional controls to comply with the proposed HCl MACT floor limit. From this information, we evaluated the effectiveness of potential APCD for removal of HCl from kiln exhaust gas streams and found that dry sorbent injection has an estimated 98 percent removal efficiency for HCl.

Dry sorbent injection (DSI) removes HCl and other acid gases using a powdered alkali sorbent injected into the exhaust gas ductwork where it then reacts with the HCl in the exhaust stream. The sorbent solids are then collected in either an ESP or baghouse. The most commonly used sodium-based sorbent is Trona, typically used in situations where the goal is to remove sulfur dioxide and/or acid gases from an exhaust gas. Hydrated lime can be used in processes, such as lime manufacturing, where the goal is to reduce acid gas emissions only.

Applying the removal efficiency of DSI controls using hydrated lime to each of the 55 kilns identified would reduce HCl emissions from these sources to below the HCl MACT floor limit. This would result in a combined reduction of 1,163 tons of HCl per year from these sources. The total capital investment to retrofit 55 existing kilns with DSI controls are estimated

to be \$5,400,000 and the total annual costs are estimated to be \$5,200,000 per year. The cost per ton of HCl removed is estimated to be \$4,500 per ton of HCl removed.

We also conducted a beyond-the-floor analysis, where we evaluated whether existing kilns would be able to comply with the new source HCl MACT floor limits. We found that of the 96 existing kilns in the source category, 74 kilns would require a DSI as control in order to meet the new source HCl MACT floor limit. The estimated reduction in HCl emissions from a beyond-the-floor HCl limit is 1,754 tons of HCl per year. The estimated incremental reduction, where we compare the existing source beyond-the-floor limit to the existing source MACT floor limit, is 591 tons of HCl per year. We estimate the total capital investment to be \$9,400,000 and total annual costs to be \$7,500,000 per year for beyond-the-floor limits. This results in a cost effectiveness of approximately \$4,300 per ton of HCl removal. We do not consider the control costs to be reasonable and therefore are not proposing a beyond-the-floor standard for HCl.

As part of our beyond-the-floor analysis, we typically identify control techniques that have the ability to achieve an emissions limit more stringent than the MACT floor. No techniques were identified that would achieve HAP reductions greater than the new source floors for the HCl subcategories. Therefore, the EPA is not proposing a beyond-the-floor HCl limit for new sources in this proposed rule.

A detailed description of the analysis of HCl emissions, the controls necessary to reduce HCl emissions, and the cost of these controls are included in the document, “Proposed Maximum Achievable Control Technology (MACT) Floor Analysis for the Lime Manufacturing Plants Industry”, located in the docket (Docket ID No. EPA-HQ-OAR-2017-0015).

2. Mercury Emissions

The 2017 data included the results of stack testing 21 kiln exhaust stacks for the presence of mercury, using EPA Methods 29 and 30B. As with HCl, we evaluated the types of kilns and lime produced for which we had data. From our discussions with industry representatives and our review of the mercury emissions data, we found that the differences in residence time of the

raw materials within the heating zone of the kiln during the production of the different types of lime produced warranted subcategorization by the three types of lime produced (*i.e.*, DB, DL, QL).

To account for variability in the lime manufacturing operations and resulting emissions, the stack test data were used to calculate the mercury MACT floor limits based on the 99 percent UPL. The mercury MACT floor limits were calculated in units of pounds of pollutant per million tons of lime produced (lb/MMton lime produced).

The EPA compared the mercury emission rates estimated in the 2020 RTR to the calculated MACT floor limits to determine the number of kilns in the source category that would require additional APCD to meet the mercury MACT floor limit. We found that out of 96 existing kilns, 75 kilns would require additional controls to comply with the calculated mercury MACT floor limits. We evaluated the effectiveness of potential APCD for removal of mercury from kiln exhaust gas streams and found that activated carbon injection (ACI) has an estimated 90 percent removal efficiency for mercury.

Similar to the discussion on the mechanism of DSI controls, ACI removes gaseous mercury from an exhaust gas stream by injecting activated carbon into the exhaust gas ductwork where it then adsorbs the gaseous mercury. The mercury-laden carbon is then collected in either an ESP or baghouse as particulate.

Applying the removal efficiency of ACI controls to each of the 75 kilns identified would reduce mercury emissions from these sources to below the mercury MACT floor limits. This would result in a combined reduction of approximately 488.5 pounds, or 0.24 tons of mercury per year from these sources. The total capital investment to retrofit 75 existing kilns with ACI controls are estimated to be \$7,300,000 and the total annual costs are estimated to be \$18,900,000 per year. To comply with the mercury MACT floor limits, the cost per ton of mercury removed is estimated to be \$39,000 per pound of mercury removed. The use of ACI

controls also provides removal of THC and D/F, as discussed in sections IV.A.3 and IV.A.4 of this preamble.

For existing sources in each of the mercury subcategories we found it is cost-effective to set emissions limits that go beyond the calculated MACT floor limits. In the case of the quick lime and dolomitic lime subcategories, the new and existing MACT floor limits were similar in value (24.94 lb/MMton for new sources, and 25.58 lb/MMton for existing sources), such that with the suggested controls the existing sources would be able to comply with the new source standard with no additional costs. We therefore set the existing emission limit equal to the new source emission limit. For the dead burned dolomitic lime subcategory, we evaluated the use of APCD to control mercury from these sources and estimate that the cost effectiveness (\$/lb) associated with the installation of ACI controls is \$16,969 per pound of mercury removed. This cost-effectiveness value is well within the range that we have determined to be cost-effective for mercury in other rules, and therefore for the dead burned dolomitic lime subcategory we are proposing beyond-the-floor limits for new and existing sources based on the use of these controls. A more detailed discussion of the APCD selected to remove mercury, and the beyond-the-floor analysis is provided below.

A summary of the proposed subcategories, and the associated proposed mercury MACT floor limits in units of lb/MMton of lime produced for new and existing lime manufacturing sources is included as Table 3.

Table 3. Proposed Mercury Limits for New and Existing Lime Manufacturing Sources

Lime produced¹	New Source Limit (lb/MMton lime produced)	Existing Source Limit (lb/MMton lime produced)
QL, DL	24.9 (MACT Floor)	24.9 (BTF) ²
DB	24.4 (BTF)	33.1 (BTF)

Note:

1 – Dolomitic lime (DL), high-calcium quick lime (QL), dead burned dolomitic lime (DB)

2 – Beyond the floor (BTF) MACT limits

In addition to the pooled variability factor in the UPL calculation, the EPA evaluated the possibility of considering the variability in mercury content of the raw material feed over the life of a quarry, consistent with the approach followed in other NESHAPs including the Portland Cement Manufacturing NESHAP (74 FR 21142), and the Brick and Structural Clay Products NESHAP (79 FR 75634). The pooled variability factor in the UPL accounts for short term variability in air emissions, and an “intra-quarry variability” (IQV) factor would account for variability in the mercury content of the raw material over the long-term life of the quarry.

Industry stakeholders provided the EPA with data from two separate lime manufacturing facilities, both of which were included in the mercury MACT floor calculations. At the first facility, the mercury content of the kiln feed was sampled, and the results tabulated. At the second facility the quarry was sampled, as well as the kiln feed, and the results tabulated. The EPA believes that from the kiln feed data provided, and the quarry sample data provided, the kiln feed data is more representative of the variability. This is based primarily on the fact that the mined quarry stone is first stored in open storage piles, where it can then mix with stone collected from the quarry over time. Therefore, the kiln feed represents a more homogenized sample of the storage pile and is more representative of the raw material fed to the lime kiln. The EPA considered the mercury content data of the kiln feed material of the two facilities and determined that we did not have enough data to establish an IQV factor. Additionally, from the data that was provided, the calculated IQV had little effect on the mercury MACT floor limits. A detailed description of this analysis is provided in the docket.

In the beyond-the-floor analysis for the quick lime and dolomitic lime subcategory, we evaluated whether existing kilns would be able to comply with the new source mercury MACT floor limit. Because facilities will require ACI controls to reduce mercury emissions in order to comply with the proposed limits, existing sources would be able to also meet the new source limit without any additional costs. Therefore, we are proposing to set the existing source limit equal to the new source limit for the quick lime and dolomitic lime subcategory. For the dead

burned dolomitic lime subcategory, we performed a beyond-the-floor analysis where we analyzed the effects of ACI controls versus the costs associated with installation and maintenance of ACI controls. We determined that the cost for new and existing sources in the dead burned dolomitic lime subcategory to install and operate ACI controls to reduce their mercury emissions beyond the calculated MACT floor were reasonable. As part of this analysis, we considered the use of ACI to control THC emissions (discussed in section IV.A.3 of this preamble). Because facilities will incur costs associated with controlling THC emissions, we did not double-count those costs when assessing the dead burned dolomitic lime subcategory, where ACI controls are used to reduce their mercury emissions beyond the calculated MACT floor. The total annual costs for the dead burned dolomitic lime subcategory to go beyond the MACT floor by installing ACI controls is, therefore, zero, due to these sources already installing ACI controls to comply with the THC MACT floor limits.

No control techniques were identified that would achieve mercury reductions greater than the new source mercury MACT floors for the dolomitic lime and quick lime subcategories. Therefore, the EPA is not proposing a beyond-the-floor mercury limit for new source dolomitic lime and quick lime subcategories in this proposed rule.

A detailed description of the analysis of mercury emissions, the controls necessary to reduce mercury emissions, and the cost of these controls are included in the document, “Proposed Maximum Achievable Control Technology (MACT) Floor Analysis for the Lime Manufacturing Plant Industry”, located in the docket (Docket ID No. EPA-HQ-OAR-2017-0015).

3. Total Hydrocarbon Emissions

The 2017 data included the results of testing 34 kiln exhaust stacks for the presence of THC, using EPA Method 25A. In addition, industry stakeholders provided emissions testing data that identified nine non-dioxin organic HAP. These included the pollutants formaldehyde, benzene, toluene, styrene, o-, m-, and p-xylenes, acetaldehyde, and naphthalene. The EPA

evaluated the organic HAP data and compared the list of nine pollutants with the THC test data which identified the nine, but also identified additional organic HAP pollutants in the analyses including the pollutants acrolein, carbon disulfide, ethyl benzene, and vinyl chloride. Based on the EPA's assessment of the available test data, the EPA concludes that compliance with a THC emissions standard would, therefore, limit and control emissions of total organic HAP being emitted from the lime manufacturing process. Therefore, the EPA is proposing to establish standards for THC as a surrogate for organic HAP. We also evaluated the types of kilns and lime produced for which we had data and determined that subcategorization by kiln type or lime produced was not warranted.

To account for variability in the lime manufacturing operations and resulting emissions, the stack test data were used to calculate the THC MACT floor limits based on the 99 percent UPL. The THC MACT floor limits were calculated based on concentration as propane, in units of ppmvd, corrected to 7 percent O₂. The new and existing source THC MACT floor limits are summarized in Table 4.

Table 4. Proposed THC MACT Floor Limits for New and Existing Lime Manufacturing Sources

Lime produced¹	New Source MACT Floor Limit (ppmvd @ 7% O₂)	Existing Source MACT Floor Limit (ppmvd @ 7% O₂)
QL, DL, DB	1.86 ²	3.21

Note:

1 – Dolomitic lime (DL), high-calcium quick lime (QL), dead burned dolomitic lime (DB)

2 – The MACT floor limit was set based on the 3xRDL value of the test method.

The EPA compared the emission rates estimated in the 2020 RTR to the proposed THC MACT floor limits to determine the number of kilns in the source category that would require additional APCD to meet the THC MACT floor limit. We found that out of 96 existing kilns, 78 kilns would require additional controls to comply with the proposed THC MACT floor limit. From this information, we evaluated the potential effectiveness of APCD for removal of THC from kiln exhaust gas streams and found that an ACI has an estimated 60 percent THC removal

efficiency. Of the 78 sources in the category, we determined that 74 sources could comply with the THC MACT floor limit using ACI, but four sources would be required to operate additional or alternative APCD to comply with the THC MACT floor limit. We therefore evaluated the use of a regenerative thermal oxidizer (RTO), which has a 99 percent THC removal efficiency. Based on our evaluation, the four sources would be required to install an RTO instead of ACI controls in order to comply with the proposed THC MACT floor limit.

As previously discussed, and similar to the control of mercury, ACI systems control THC emissions by injecting activated carbon into the exhaust gas stream. The activated carbon reacts with the organic HAP to form a reactant which can then be removed by an ESP or baghouse as particulate.

An RTO uses a high-density media to preheat the exhaust gas stream and to start the oxidation process. The gas then enters a combustion chamber, where high temperatures complete the oxidation process. Heat from the combustion chamber is then routed back to the high-density media chamber and provides the heat to preheat the incoming gas stream.

Applying the removal efficiency of ACI controls, and in four cases the removal efficiency of an RTO, to each of the 78 kilns previously identified, would reduce THC emissions from these sources to below the proposed THC MACT floor limit. This would result in a combined reduction of approximately 570 tons of THC per year from these sources. When calculating the capital investment and annual costs associated with controlling THC emissions, we also considered those facilities that would have to install ACI to control mercury emissions, as previously discussed in this preamble. The total capital investment to retrofit 78 existing kilns with the appropriate THC controls is estimated to be \$14,600,000 and the total annual costs are estimated to be \$7,800,000 per year. The cost per ton of THC removed is estimated to be \$13,800 per ton of THC removed.

We also conducted a beyond-the-floor analysis where we evaluated whether existing kilns would be able to comply with the new source THC MACT floor limits. We found that of

the 96 existing kilns in the source category, 36 kilns would require ACI as control and 47 would require an RTO as control, in order to meet the new source THC MACT floor limit. The estimated reduction in THC emissions from a beyond-the-floor THC limit is approximately 780 tons of THC per year. The incremental reduction, where we compare the existing source beyond-the-floor limit to the existing source MACT floor limit, is estimated to be approximately 210 tons of THC per year. We estimate the total capital investment to be \$160,000,000 and total annual costs \$52,000,000 per year for beyond-the-floor limits. This results in a cost effectiveness of \$67,000 per ton of THC reduction.

We also assessed the costs associated with the use of RTO to control THC beyond the MACT floor limit. As previously stated, of the 96 existing kilns in the source category, 4 kilns will be required to install an RTO to comply with the THC MACT floor limit. The total capital investment for the remaining 92 existing kilns to install an RTO to go beyond-the-floor for THC would be \$300,000,000, and the total annual cost is estimated as \$99,000,000. We did not consider the costs of either of these beyond-the-floor options to be reasonable and therefore are not proposing a beyond-the-floor standard for THC.

A detailed description of the analysis of THC emissions, the controls necessary to reduce THC emissions, and the cost of these controls are included in the document, “Proposed Maximum Achievable Control Technology (MACT) Floor Analysis for the Lime Manufacturing Plant Industry”, located in the docket (Docket ID No. EPA-HQ-OAR-2017-0015).

4. Dioxin/Furan Emissions

The 2017 data included the results of testing seven kiln exhaust stacks for the presence of D/F congeners using EPA Method 23. After review of the test reports, the EPA determined that five of the seven reports were not valid because each report only performed a 1-run test, which cannot be used to set a MACT floor limit. Two of the seven reports included valid 3-run tests. To account for variability in the lime manufacturing operations and resulting D/F emissions, the data were used to calculate the D/F MACT floor based on the 99 percent UPL. The 2017 D/F data

included some congeners reported as below detection level (BDL). Because of this we followed the guidance of the June 5, 2014, memorandum from Steffan Johnson titled, “Determination of ‘non-detect’ from EPA Method 29 (multi-metals) and EPA Method 23 (dioxin/furan) test data when evaluating the setting of MACT floors versus establishing work practice standards” (Docket ID No. EPA-HQ-OAR-2017-0015), which provides guidance on using detection limits as an indicator of the measurable presence of a given pollutant, specifically where multi-component samples, such as with D/F congeners, are the pollutants of concern. Additionally, we reviewed the December 13, 2011, memorandum from Peter Westlin and Ray Merrill titled “Data and procedure for handling below detection level data in analyzing various pollutant emissions databases for MACT and RTR emissions limits” (Docket ID No. EPA-HQ-OAR-2017-0015), which describes the procedure for handling below detection level (BDL) data and developing representative detection level (RDL) data when setting MACT emission limits. In accordance with these guidance documents, the new and existing UPL for D/F were compared to the emission limit value determined to be equivalent to 3 times the RDL (3xRDL)⁶ of the test method, and the 3xRDL value (0.028 ng/dscm TEQ @ 7 percent O₂) was greater than the UPL (0.019 ng/dscm TEQ @ 7 percent O₂). Therefore, the MACT floor limit for D/F was set based on the 3xRDL value of the test method. The D/F MACT floor limits for new and existing sources are summarized in Table 5.

Table 5 Proposed D/F MACT Floor Limits for New and Existing Lime Manufacturing Sources

Lime produced¹	New Source MACT Floor Limit (ng/dscm TEQ @ 7% O₂)	Existing Source MACT Floor Limit (ng/dscm TEQ @ 7% O₂)
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⁶ The factor of three used in the 3xRDL calculation is based on a scientifically accepted definition of level of quantitation – simply stated, the level where a test method performs with acceptable precision. The level of quantitation has been defined as ten times the standard deviation of seven replicate analyses of a sample at a concentration level close to the MDL units of the emission standard is then compared to the MACT floor value to ensure that the resulting emission limit is in a range that can be measured with reasonable precision. In other words, if the 3xRDL value were less than the calculated floor (e.g., calculated from the UPL), we would conclude that measurement variability has been adequately addressed; if it were greater than the calculated floor, we would adjust the emissions limit to comport with the 3xRDL value to address measurement variability.

QL, DL, DB	0.028	0.028
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Note:

1 – Dolomitic lime (DL), high-calcium quick lime (QL), dead burned dolomitic lime (DB)

The EPA recognizes that these proposed limits are based on a limited D/F emissions dataset. The EPA will accept any additional D/F test data relevant to lime manufacturing operations during the public comment period.

The EPA then compared the emission rates estimated in the 2020 RTR to the proposed D/F MACT floor limits to determine the number of kilns in the source category that would require additional APCD to meet the MACT floor limit. We found that 1 of the 96 kilns in the source category would require additional controls in order to be able to comply with the proposed D/F MACT floor limit. From this information, we evaluated the potential effectiveness of APCD for removal of D/F from kiln exhaust gas streams and found that an ACI has an estimated 85 percent D/F removal efficiency. The total capital investment for the use of ACI as control of D/F is estimated to be \$98,000, and the total annual cost is estimated to be \$251,000.

We did not perform a beyond-the-floor analysis for D/F. The proposed limit is based on the detection limit of the method and represents the lowest concentration of D/F that can be measured; therefore, no further emissions reduction can be achieved that is measurable.

A detailed description of the analysis of D/F emissions, the comparison with the 3xRDL value, the controls necessary to reduce D/F emissions, and the cost of these controls are included in the document, “Proposed Maximum Achievable Control Technology (MACT) Floor Analysis for the Lime Manufacturing Plants Industry”, located in the docket (Docket ID No. EPA-HQ-OAR-2017-0015).

5. Summary of Proposed New and Existing Source Limits for Lime Kilns

The proposed emission limits for new and existing sources in the Lime Manufacturing NESHAP are summarized in Table 6.

Table 6. Summary of Proposed New and Existing Source Limits for the Lime Manufacturing NESHAP

Pollutant ¹	Kiln Type ²	Lime produced ³	New Source Limit	Unit of Measure	Existing Source Limit	Unit of Measure
HCl	SR	DL, DB	1.6	lb/ton lime produced	2.2	lb/ton lime produced
	SR	QL	0.021	lb/ton lime produced	0.58	lb/ton lime produced
	PR	DL, DB	0.39	lb/ton lime produced	0.39	lb/ton lime produced
	PR	QL	0.015	lb/ton lime produced	0.015	lb/ton lime produced
	VK	All	0.021	lb/ton lime produced	0.021	lb/ton lime produced
Mercury	All	QL, DL	24.9	lb/MMton lime produced	24.9	lb/MMton lime produced
	All	DB	24.4	lb/MMton lime produced	33.1	lb/MMton lime produced
THC	All	All	1.86	ppmvd as propane @ 7% O ₂	3.21	ppmvd as propane @ 7% O ₂
D/F	All	All	0.028	ng/dscm (TEQ) @ 7% O ₂	0.028	ng/dscm (TEQ) @ 7% O ₂

Note:

1 – Hydrogen chloride (HCl), total hydrocarbon (THC), dioxin/furans (D/F)

2 – Straight rotary (SR), preheater rotary (PR), vertical (VK)

3 – Dolomitic lime (DL), quick lime (QL), dead burned dolomitic lime (DB)

B. What performance testing, monitoring, and recordkeeping and reporting are we proposing?

1. Performance Testing

We are proposing, based on the new and existing source limits for lime kilns, that new sources demonstrate initial compliance within 180 days after start-up, and existing sources demonstrate initial compliance within 3 years after the promulgation of the final rule. We are proposing that the initial performance tests to demonstrate compliance with the MACT standards of Table 6 of this preamble are conducted using the methods identified in Table 7.

Table 7. Summary of Proposed Test Methods

Pollutant	EPA Method
HCl	320 or 321
Mercury	29 or 30B

THC	25A
D/F	23

Additionally, consistent with the existing performance testing requirements of the Lime Manufacturing NESHAP (40 CFR 63.7111), subsequent performance testing will be required every 5 years, using the methods identified in Table 7.

2. Parameter Monitoring

Under this proposal, continuous compliance with the emission limits would be demonstrated through control device parameter monitoring coupled with periodic emissions testing described above.

In addition to the parametric monitoring currently specified in the rule for wet scrubbers and baghouses (40 CFR 63.7113), we are proposing to add to Table 3 of the NESHAP the following parameter monitoring requirements for the types of APCDs that we expect would be used to comply with the standards:

- For DSI, monitor and record the sorbent injection flow rate, and gas flow rate.
- For ACI, monitor and record the activated carbon injection rate, and the gas flow rate.
- For RTO, monitor and record the combustion chamber temperature

The operating limits for these parameters are set consistent with the existing provisions of 40 CFR 63.7112(j), as the average of the three test run averages during the performance test. In addition, consistent with NESHAP general provisions, a source owner will be required to operate and maintain the source, its air pollution control equipment, and its monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, to include operating and maintaining equipment in accordance with manufacturer's recommendations. Owners will be required to prepare and keep records of calibration and accuracy checks of the continuous parameter monitoring system (CPMS) to document proper operation and maintenance of the monitoring system.

3. Recordkeeping and Reporting

Under this proposal, and consistent with existing requirements in the Lime Manufacturing NESHAP, a source owner will be required to submit semi-annual compliance summary reports which document both compliance with the requirements of the Lime Manufacturing NESHAP and any deviations from compliance with any of those requirements.

Owners and operators would be required to maintain the records specified by 40 CFR 63.10 and, in addition, would be required to maintain records of all inspection and monitoring data, in accordance with the Lime Manufacturing NESHAP (40 CFR 63.7132).

C. What other actions are we proposing?

We are proposing to update the electronic reporting requirements found in 40 CFR 63.7131(g) and 40 CFR 63.7131(h)(3) to reflect new procedures for reporting CBI. The update provides an email address that source owners and operators can electronically mail CBI to the OAQPS CBI Office when submitting compliance reports.

D. What compliance dates are we proposing, and what is the rationale for the proposed compliance dates?

Amendments to the Lime Manufacturing NESHAP proposed in this rulemaking for adoption under CAA section 112(d)(2) and (3) are subject to the compliance deadlines outlined in the CAA under section 112(i). For existing sources, CAA section 112(i)(3) provides there shall be compliance “as expeditiously as practicable, but in no event later than 3 years after the effective date of such standard” subject to certain exemptions further detailed in the statute.⁷ In determining what compliance period is as “expeditious as practicable,” we consider the amount of time needed to plan and construct projects and change operating procedures. As provided in CAA section 112(i), all new affected sources would comply with these provisions by the

⁷ *Association of Battery Recyclers v. EPA*, 716 F.3d 667, 672 (D.C. Cir. 2013) (“Section 112(i)(3)’s 3-year maximum compliance period applies generally to any emission standard . . . promulgated under [section 112]” (brackets in original)).

effective date of the final amendments to the Lime Manufacturing NESHAP or upon startup, whichever is later.

The EPA projects that many existing sources would need to install add-on controls to comply with the proposed limits. These sources would require time to construct, conduct performance testing, and implement monitoring to comply with the revised provisions. Therefore, we are proposing to allow 3 years for existing source to become compliant with the new emission standards.

All affected facilities would have to continue to meet the current provisions of 40 CFR part 63, subpart AAAAA until the applicable compliance date of the amended rule. The final action is not a “major rule” as defined by 5 U.S.C. 804(2), so the effective date of the final rule will be the promulgation date as specified in CAA section 112(d)(10).

For all affected sources that commence construction or reconstruction on or before **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**, we are proposing that it is necessary to provide 3 years after the effective date of the final rule (or upon startup, whichever is later) for owners and operators to comply with the provisions of this action. For all affected sources that commenced construction or reconstruction after **[INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]**, we are proposing that owners and operators comply with the provisions by the effective date of the final rule (or upon startup, whichever is later).

We solicit comment on these proposed compliance periods, and we specifically request submission of information from sources in this source category regarding specific actions that would need to be undertaken to comply with the proposed amended provisions and the time needed to make the adjustments for compliance with any of the revised provisions. We note that information provided may result in changes to the proposed compliance dates.

V. Summary of Cost, Environmental, and Economic Impacts

A. What are the affected sources?

As previously indicated, there are currently 35 major sources subject to the Lime Manufacturing NESHAP that are operating in the United States. An affected source under the NESHAP is the owner or operator of a lime manufacturing plant that is a major source, or that is located at, or is a part of, a major source of HAP emissions, unless the lime manufacturing plant is located at a kraft pulp mill, soda pulp mill, sulfite pulp mill, beet sugar manufacturing plant, or only processes sludge containing calcium carbonate from water softening processes. A lime manufacturing plant is an establishment engaged in the manufacture of lime products (calcium oxide, calcium oxide with magnesium oxide, or dead burned dolomite) by calcination of limestone, dolomite, shells, or other calcareous substances. A major source of HAP is a plant site that emits or has the potential to emit any single HAP at a rate of 9.07 megagrams (10 tons) or more, or any combination of HAP at a rate of 22.68 megagrams (25 tons) or more per year from all emission sources at the plant site.

The Lime Manufacturing NESHAP applies to each existing or new lime kiln and their associated cooler(s). In addition, the NESHAP applies to each PSH operation located at the plant. This includes storage bins, conveying systems and transfer points, bulk loading and unloading operations, screening operations, surge bins, and bucket elevators.

B. What are the air quality impacts?

This action proposes first-time standards for HCl, mercury, THC, and D/F that will limit emissions and require, in some cases, the installation of additional controls at lime manufacturing plants at major sources. We estimate that the lime manufacturing industry will comply with the D/F standards without the addition of controls. For HCl, mercury, and THC, installation of controls will result in a combined reduction of total HAP of 1,730 tons of HAP per year (tpy). Specifically, installation of controls will reduce HCl emissions by 1,163 tpy. The installation of controls will reduce mercury emissions by 488 lbs per year (0.24 tpy). The installation of controls will reduce THC emissions by 570 tpy. Finally, the installation of controls will reduce D/F emissions by 9.5×10^{-5} lbs per year (4.7×10^{-8} tpy).

Indirect or secondary air emissions impacts are impacts that would result from the increased electricity usage associated with the operation of control devices (*e.g.*, increased secondary emissions of criteria pollutants from power plants). Energy impacts consist of the electricity and steam needed to operate control devices and other equipment. We find that the secondary impacts of this action are minimal, consisting of the natural gas required to maintain the RTO. Refer to the “Lime Impacts Memorandum” for a detailed discussion of the analyses performed on potential secondary impacts. This memorandum is located in the docket (Docket ID No. EPA-HQ-OAR-2017-0015).

C. What are the cost impacts?

This action proposes emission limits for new and existing sources in the lime manufacturing source category. Although the action contains requirements for new sources, we are not aware of any new sources being constructed now or planned in the next year, and, consequently, we did not estimate any cost impacts for new sources. We estimate the total annualized cost of the proposed rule to existing sources in the lime manufacturing source category to be \$32,000,000 per year. The annual costs are expected to be based on operation and maintenance of the added control systems. A memorandum titled “Proposed Maximum Achievable Control Technology (MACT) Floor Analysis for the Lime Manufacturing Plants Industry” includes details of our cost assessment and is included in the docket for this action (Docket ID EPA-HQ-OAR-2017-0015).

D. What are the economic impacts?

For the proposed rule, the EPA estimated the cost of installing additional APCD in order to comply with the proposed emission limits. This includes the capital costs of the initial installation, and subsequent maintenance and operation of the controls. To assess the potential economic impacts, the expected annual cost was compared to the total sales revenue for the ultimate owners of affected facilities. For this rule, the expected annual cost is \$920,000 (on average) for each facility, with an estimated nationwide annual cost of \$32,000,000 per year. The

35 affected facilities are owned by 12 parent companies, and the total costs associated with the proposed amendments are expected to be less than one percent of annual sales revenue per ultimate owner.

The EPA also prepared a small business screening assessment to determine if any of the identified affected entities are small entities, as defined by the U.S. Small Business Administration. This analysis is available in the Docket for this action (Docket ID No. EPA-HQ-OAR-2017-0015). Because the total costs associated with the proposed amendments are expected to be less than one percent of annual sales revenue per owner in the lime manufacturing source category, there are, therefore, no significant economic impacts from these proposed amendments on the three affected facilities that are owned by small entities.

Information on our cost impact estimates on the sources in the lime manufacturing source category is available in the docket for this proposed rule (Docket ID No. EPA-HQ-OAR-2017-0015).

E. What analysis of environmental justice did we conduct?

Consistent with EPA's commitment to integrating environmental justice (EJ) in the Agency's actions, and following the directives set forth in multiple Executive Orders, the Agency has carefully considered the impacts of this action on communities with EJ concerns. Executive Order 12898 directs the EPA to identify the populations of concern who are most likely to experience unequal burdens from environmental harms; specifically, minority populations (*i.e.*, people of color and/or Indigenous peoples) and low-income populations (59 FR 7629, February 16, 1994). Additionally, Executive Order 13985 is intended to advance racial equity and support underserved communities through federal government actions (86 FR 7009, January 25, 2021). The EPA defines EJ as "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies".⁸ The EPA

⁸ <https://www.epa.gov/environmentaljustice>

further defines fair treatment to mean that “no group of people should bear a disproportionate burden of environmental harms and risks, including those resulting from the negative environmental consequences of industrial, governmental, and commercial operations or programs and policies”. In recognizing that people of color and low-income populations often bear an unequal burden of environmental harms and risks, the EPA continues to consider ways of protecting them from adverse public health and environmental effects of air pollution.

To examine the potential for any EJ issues that might be associated with lime manufacturing facilities, we performed a demographic analysis, which is an assessment of individual demographic groups of the populations living within 5 kilometers (km) and 50 km of the facilities. The EPA then compared the data from this analysis to the national average for each of the demographic groups.

The results of the demographic analysis (see Table 8) indicate that the population percentages for certain demographic groups within 5 km of the 35 facilities are greater than the corresponding nationwide percentages. The demographic percentage for populations residing within 5 km of facility operations is 18 percentage points greater than its corresponding nationwide percentage for the Hispanic and Latino population (37 percent within 5 km of the facilities compared to 19 percent nationwide), 16 percentage points greater than its corresponding nationwide percentage for the population living in linguistic isolation (21 percent within 5 km of the facilities compared to 5 percent nationwide), 14 percentage points greater than its corresponding nationwide percentage for the population living below the poverty level (27 percent within 5 km of the facilities compared to 13 percent nationwide), 10 percentage points greater than its corresponding nationwide percentage for the minority population (50 percent within 5 km of the facilities compared to 40 percent nationwide), and 5 percentage points greater than its corresponding nationwide percentage for the population 25 years old and older without a high school diploma (17 percent within 5 km of the facilities compared to 12 percent

nationwide). The remaining demographic groups within 5 km of facility operations are less than, or within one percentage point of, the corresponding nationwide percentages.

In addition, the proximity results presented in Table 8 indicate that the population percentages for certain demographic groups within 50 km of the 35 facilities are greater than the corresponding nationwide percentages. The demographic percentage for populations residing within 50 km of the facility operations is 5 percentage points greater than its corresponding nationwide percentage for the African American population (17 percent within 50 km to the facilities compared to 12 percent nationwide), 3 percentage points greater than its corresponding nationwide percentage for the population living below the poverty level (16 percent within 50 km of the facilities compared to 13 percent nationwide), and 2 percentage points greater than its corresponding nationwide percentage for the population living in linguistic isolation (7 percent within 50 km of the facilities compared to 5 percent nationwide). The remaining demographic percentages within 50 km of the facilities are less than, or within one percentage point of, the corresponding nationwide percentages.

A summary of the proximity demographic assessment performed for the major source lime manufacturing facilities is included as Table 8. The methodology and the results of the demographic analysis are presented in a technical report, *Analysis of Demographic Factors for Populations Living Near Lime Manufacturing Facilities*, available in this docket for this action (Docket ID EPA-HQ-OAR-2017-0015).

Table 8. Proximity Demographic Assessment Results for Major Source Lime Manufacturing Facilities

Demographic Group	Nationwide	Population within 50 km of 35 Facilities	Population within 5 km of 35 Facilities
Total Population	328,016,242	21,999,863	473,343
	Race and Ethnicity by Percent		
White	60%	60%	50%
African American	12%	17%	9%
Native American	0.7%	0.3%	0.9%

Hispanic or Latino (includes white and nonwhite)	19%	17%	37%
Other and Multiracial	8%	6%	3%
	Income by Percent		
Below Poverty Level	13%	16%	27%
Above Poverty Level	87%	84%	73%
	Education by Percent		
Over 25 and without a High School Diploma	12%	12%	17%
Over 25 and with a High School Diploma	88%	88%	83%
	Linguistically Isolated by Percent		
Linguistically Isolated	5%	7%	21%

Notes:

- The nationwide population count, and all demographic percentages are based on the Census' 2015-2019 American Community Survey 5-year block group averages and include Puerto Rico. Demographic percentages based on different averages may differ. The total population counts within 5 km and 50 km of all facilities are based on the 2010 Decennial Census block populations.
- Minority population is the total population minus the white population.
- To avoid double counting, the "Hispanic or Latino" category is treated as a distinct demographic category for these analyses. A person is identified as one of five racial/ethnic categories above: White, African American, Native American, Other and Multiracial, or Hispanic/Latino. A person who identifies as Hispanic or Latino is counted as Hispanic/Latino for this analysis, regardless of what race this person may have also identified as in the Census.

The human health risk estimated for this source category for the July 24, 2020, RTR (85 FR 44960) was determined to be acceptable, and the standards were determined to provide an ample margin of safety to protect public health. Specifically, the maximum individual cancer risk was 1-in-1 million for actual emissions (2-in-1 million for allowable emissions) and the noncancer hazard indices for chronic exposure were well below 1 (0.04 for actual emissions, 0.05 for allowable emissions). The noncancer hazard quotient for acute exposure was 0.06, also below 1. The proposed changes to the NESHAP subpart AAAAAA will reduce emissions by 1,730 tons of HAP per year, and therefore, further improve human health exposures for populations in these demographic groups. The proposed changes will have beneficial effects on air quality and public health for populations exposed to emissions from lime manufacturing facilities.

VI. Request for Comments

We solicit comments on this proposed action. In addition to general comments on this proposed action, we are also interested in additional data that may improve the analyses. We are

specifically interested in receiving any information regarding developments in practices, processes, and control technologies that reduce HAP emissions.

VII. Submitting Data Corrections

The site-specific emissions data used in setting MACT standards for HCl, mercury, THC, and D/F, as emitted from the lime manufacturing source category, are provided in the docket (Docket ID EPA-HQ-OAR-2017-0015).

If you believe that the data are not representative or are inaccurate, please identify the data in question, provide your reason for concern, and provide any “improved” data that you have, if available. When you submit data, we request that you provide documentation of the basis for the revised values to support your suggested changes.

For information on how to submit comments, including the submittal of data corrections, refer to the instructions provided in the introduction of this preamble.

VIII. Statutory and Executive Order Reviews

Additional information about these statutes and Executive Orders can be found at <https://www.epa.gov/laws-regulations/laws-and-executive-orders>.

A. Executive Order 12866: Regulatory Planning and Review and Executive Order 13563: Improving Regulation and Regulatory Review

This action is not a significant regulatory action and was therefore not submitted to the Office of Management and Budget (OMB) for review.

B. Paperwork Reduction Act (PRA)

The information collection activities in this proposed rule have been submitted for approval to the Office of Management and Budget (OMB) under the PRA. The Information Collection Request (ICR) document that the EPA prepared has been assigned EPA ICR number 2072.10. You can find a copy of the ICR in the docket for this rule, and it is briefly summarized here.

We are proposing changes to the reporting and recordkeeping requirements for the Lime Manufacturing Plants NESHAP by incorporating the reporting and recordkeeping requirements associated with the new and existing source MACT standards for HCl, mercury, THC, and D/F.

Respondents/affected entities: Owners or operators of lime manufacturing plants that are major sources, or that are located at, or are part of, major sources of HAP emissions, unless the lime manufacturing plant is located at a kraft pulp mill, soda pulp mill, sulfite pulp mill, sugar beet manufacturing plant, or only processes sludge containing calcium carbonate from water softening processes.

Respondent's obligation to respond: Mandatory (40 CFR part 63, subpart AAAAAA)

Estimated number of respondents: On average over the next 3 years, approximately 35 existing major sources will be subject to these standards. It is also estimated that no additional respondent will become subject to the emission standards over the 3-year period.

Frequency of response: The frequency of responses varies depending on the burden item.

Total estimated burden: The average annual burden to industry over the next 3 years from the proposed recordkeeping and reporting requirements is estimated to be 8.392 hours per year. Burden is defined at 5 CFR 1320.3(b).

Total estimated cost: The annual recordkeeping and reporting cost for all facilities to comply with all of the requirements in the NESHAP is estimated to be \$3,570,000 per year, of which \$1,370,000 (first year) is for this rule, and the rest is for other costs related to continued compliance with the current NESHAP requirements including \$1,005,000 in annualized capital and operation and maintenance costs.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control numbers for the EPA's regulations in 40 CFR are listed in 40 CFR part 9.

Submit your comments on the Agency's need for this information, the accuracy of the provided burden estimates and any suggested methods for minimizing respondent burden to the EPA using

the docket identified at the beginning of this rule. The EPA will respond to any ICR-related comments in the final rule. You may also send your ICR-related comments to OMB's Office of Information and Regulatory Affairs using the interface at www.reginfo.gov/public/do/PRAMain. Find this particular information collection by selecting "Currently under Review - Open for Public Comments" or by using the search function. OMB must receive comments no later than **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

C. Regulatory Flexibility Act (RFA)

I certify that this action will not have a significant economic impact on a substantial number of small entities under the RFA. The small entities subject to the requirements of this action are small businesses, as defined by the U.S. Small Business Administration. The Agency has determined that 3 lime manufacturing parent companies out of 35 may experience an impact 0.5 percent to 0.9 percent of annual sales. Details of this analysis are presented in "Economic Impact and Small Business Screening Assessments for Proposed Amendments to the National Emission Standards for Hazardous Air Pollutants for Lime Manufacturing Facilities", located in the docket for this action (Docket ID No. EPA-HQ-OAR-2017-0015).

D. Unfunded Mandates Reform Act (UMRA)

This action does not contain an unfunded mandate of \$100 million or more as described in UMRA, 2 U.S.C. 1531–1538, and does not significantly or uniquely affect small governments. The action imposes no enforceable duty on any state, local, or tribal governments or the private sector.

E. Executive Order 13132: Federalism

This action does not have federalism implications. It will not have substantial direct effects on the states, on the relationship between the national government and the states, or on the distribution of power and responsibilities among the various levels of government.

F. Executive Order 13175: Consultation and Coordination with Indian Tribal Governments

This action does not have tribal implications as specified in Executive Order 13175. The EPA does not know of any lime manufacturing facilities owned or operated by Indian tribal governments. Thus, Executive Order 13175 does not apply to this action.

G. Executive Order 13045: Protection of Children from Environmental Health Risks and Safety Risks

This action is not subject to Executive Order 13045 because it is not economically significant as defined in Executive Order 12866, and because the EPA does not believe the environmental health or safety risks addressed by this action present a disproportionate risk to children. This action's proposes emission standards for four previously unregulated pollutants; therefore, the rule should result in health benefits to children by reducing the level of HAP emissions emitted from the lime manufacturing process.

H. Executive Order 13211: Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

This action is not a "significant energy action" because it is not likely to have a significant adverse effect on the supply, distribution or use of energy. In this proposed action, the EPA is setting emission standards for previously unregulated pollutant. This does not impact energy supply, distribution, or use.

I. National Technology Transfer and Advancement Act (NTTAA) and 1 CFR part 51

This action involves technical standards. Therefore, the EPA conducted searches for the Lime Manufacturing NESHAP through the Enhanced National Standards Systems Network (NSSN) Database managed by the American National Standards Institute (ANSI). We also conducted a review of voluntary consensus standards (VCS) organizations and accessed and searched their databases. We conducted searches for EPA Methods 23, 25A, 29, 30B, 320, and 321. During the EPA's VCS search, if the title or abstract (if provided) of the VCS described technical sampling and analytical procedures that are similar to the EPA's referenced method, the EPA ordered a copy of the standard and reviewed it as a potential equivalent method. We reviewed all potential standards to determine the practicality of the VCS for this rule. This

review requires significant method validation data that meet the requirements of EPA Method 301 for accepting alternative methods or scientific, engineering, and policy equivalence to procedures in the EPA referenced methods. The EPA may reconsider determinations of impracticality when additional information is available for any particular VCS.

Two VCS were identified as acceptable alternatives to the EPA test methods for this proposed rule. The VCS ASTM D6784-16, “Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method)” is an acceptable alternative to EPA Method 29 (portion for mercury only) as a method for measuring mercury. The VCS ASTM D6348-12e1, “Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform (FTIR) Spectroscopy” is an acceptable alternative to EPA Method 320 with certain conditions. Detailed information on the VCS search and determination can be found in the memorandum, “Voluntary Consensus Standard Results for National Emission Standards for Hazardous Air Pollutants: Lime Manufacturing Technology Review,” which is available in the docket for this action (Docket ID No. EPA-HQ-OAR-2017-0015). The two VCS may be obtained from <https://www.astm.org> or from the ASTM Headquarters at 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, Pennsylvania, 19428-2959.

The EPA is incorporating by reference the VCS ASTM D6348-12e1, “Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform (FTIR) Spectroscopy,” as an acceptable alternative to EPA Method 320. ASTM D6348-03(2010) was determined to be equivalent to EPA Method 320 with caveats. ASTM D6348-12e1 is a revised version of ASTM D6348-03(2010) and includes a new section on accepting the results from the direct measurement of a certified spike gas cylinder, but lacks the caveats placed on the ASTM D6348-03(2010) version. ASTM D6348-12e1 is an extractive FTIR field test method used to quantify gas phase concentrations of multiple analytes from stationary source effluent and is an acceptable alternative to EPA Method 320 at this time with caveats requiring inclusion of

selected annexes to the standard as mandatory. When using ASTM D6348-12e1, the following conditions must be met:

- The test plan preparation and implementation in the Annexes to ASTM D6348-03, Sections A1 through A8 are mandatory; and
- In ASTM D6348-03, Annex A5 (Analyte Spiking Technique), the percent (%) R must be determined for each target analyte (Equation A5.5).

In order for the test data to be acceptable for a compound, percent R must be $70 \text{ percent} \leq R \leq 130 \text{ percent}$. If the percent R value does not meet this criterion for a target compound, the test data is not acceptable for that compound and the test must be repeated for that analyte (*i.e.*, the sampling and/or analytical procedure should be adjusted before a retest). The percent R value for each compound must be reported in the test report, and all field measurements must be corrected with the calculated percent R value for that compound by using the following equation:

$$\text{Reported Results} = ((\text{Measured Concentration in Stack})/(\text{percent R}) \times 100.$$

The EPA is incorporating by reference the VCS ASTM D6784-16), “Standard Test Method for Elemental, Oxidized, Particle-Bound and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario Hydro Method),” as an acceptable alternative to EPA Method 29 (portion for mercury only) as a method for measuring elemental, oxidized, particle-bound, and total mercury concentrations ranging from approximately 0.5 to 100 micrograms per normal cubic meter. This test method describes equipment and procedures for obtaining samples from effluent ducts and stacks, equipment and procedures for laboratory analysis, and procedures for calculating results. VCS ASTM D6784-16 allows for additional flexibility in the sampling and analytical procedures for the earlier version of the same standard VCS ASTM D6784-02 (Reapproved 2008).

Additionally, EPA is incorporating by reference “Recommended Toxicity Equivalence Factors (TEFs) for Human Health Risk Assessments of 2, 3, 7, 8-Tetrachlorodibenzo-p-dioxin and Dioxin-Like Compounds” (EPA/100/R-10/005 December 2010), which is the source of the

toxicity equivalent factors for dioxins and furans used in calculating the toxic equivalence quotient of the proposed dioxin and furan standard.

J. Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898 (59 FR 7629, February 16, 1994) directs federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations (people of color and/or Indigenous peoples) and low-income populations.

The EPA believes that the human health or environmental conditions that exist prior to this action result in or have the potential to result in disproportionate and adverse human health or environmental effects on people of color, low-income populations and/or Indigenous peoples.

The assessment of populations in close proximity of lime manufacturing facilities shows the percentage of Hispanic or Latino, below poverty level, and linguistically isolated groups are higher than the national average (see section V.E. of the preamble). The higher percentages are driven by 4 of the 35 facilities in the source category.

The EPA believes that this action is likely to reduce existing disproportionate and adverse effects on people of color, low-income populations and/or Indigenous peoples. The EPA is proposing MACT standards for HCl, mercury, THC as a surrogate for organic HAP, and D/F. EPA expects that the four facilities would have to implement control measures to reduce emissions to comply with the MACT standards and that HAP exposures for the people of color and low-income individuals living near these four facilities would decrease.

The EPA will additionally identify and address environmental justice concerns by conducting outreach after signature of this proposed rule. The EPA will reach out to tribes through a monthly policy call and with consultation letters. Additionally, the EPA will address

this rule during the monthly Environmental Justice call for communities burdened by disproportionate environmental impacts.

The information supporting this Executive Order review is contained in section V.E of this preamble.

List of Subjects in 40 CFR Part 63

Environmental protection, Air pollution control, Hazardous substances, Incorporation by reference, Reporting and recordkeeping requirements.

Michael S. Regan,

Administrator.

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